We present the case of a 63-year-old woman diagnosed with infiltrating ductal carcinoma of the left breast (G1) in 1993 who underwent surgical treatment (tumorectomy and incomplete lymphadenectomy in which only 3 negative lymph nodes were obtained) and adjuvant chemo-radiotherapy (6 cycles of CMF and 50 Gy to the breast, the axillary and supraclavicular lymph node chains with overdosage in the affected quadrant). Posterior check-ups were normal until 2012 when recurrence was detected in a nodule of 2 cm located at the scar of the tumorectomy (G2, positive RH, negative Her2, and Ki 20%). After ruling out regional and distant involvement by imaging techniques (ultrasonography, thoraco-abdominal-pelvic CT and bone scintigraphy) the patient was referred to Nuclear Medicine for selective sentinel node biopsy (SSNB).

Anterior and left lateral images were obtained at 40 and 60 min after the periareolar injection in the left breast of 111 MBq $^{99m}$Tc-albumin nanocolloid. No radiotracer migration was observed (Fig. 1). In the absence of lymphatic drainage a SPECT-CT was performed showing uptake in 2 adjacent lymph nodes located in the contralateral axilla (right), corresponding to 2 sentinel lymph nodes at Berg level 1 (Fig. 2).

At 24 h post-injection, left mastectomy was carried out. Previous to resection, the right axillary sentinel lymph nodes were localized using a gamma detector probe. Histological result was negative for metastasis in the 2 lymph nodes resected.

According to the AJCC classification, 7th edition, the tumor was staged as pT1cNOMO. Adjuvant chemotherapy and hormone (letrozol) therapy were administered and is continued at present.

When the drainage pathway is iatrogenically modified in breast cancer, alternative routes are sought. In our patient these were the contralateral axillary lymph nodes. In these cases the possibility of aberrant drainage pathways should therefore be taken into account, and the search for the sentinel lymph node should be performed obtaining anterior, lateral, and oblique planar scintigraphic images of the 2 axillas. The use of SPECT-CT is essential for correct localization of possible unexpected drainage territories.

Repeat SSNB in patients with previous axillary surgery is controversial since the surgical procedure interrupts the original lymphatic drainage from the tumor to the potential sentinel lymph node.

In a recent meta-analysis in patients with local relapse of breast cancer and previous axillary surgery (SSNB and/or axillary lymph node dissection) Masskant-Braat et al. demonstrated that repeat SSNB is a safe, reproducible technique which allows localization of aberrant drainage pathways, provides satisfactory rates of identification and leads to changes in the therapeutic strategy.

In our case repeat SSNB contributed to better restaging, with subsequent changes in the prognosis and therapeutic management of the patient.
Fig. 1. Anterior and left lateral planar images acquired at 40 min after injection of the radiotracer. Absence of the visualization of radiotracer deposits in the axillary and parasternal lymph node regions.

Fig. 2. Coronal, sagittal and axial SPECT-CT fused images. Drainage to a right axillary lymph node (Berg level 1).

References

